

COOKIA

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COMBING
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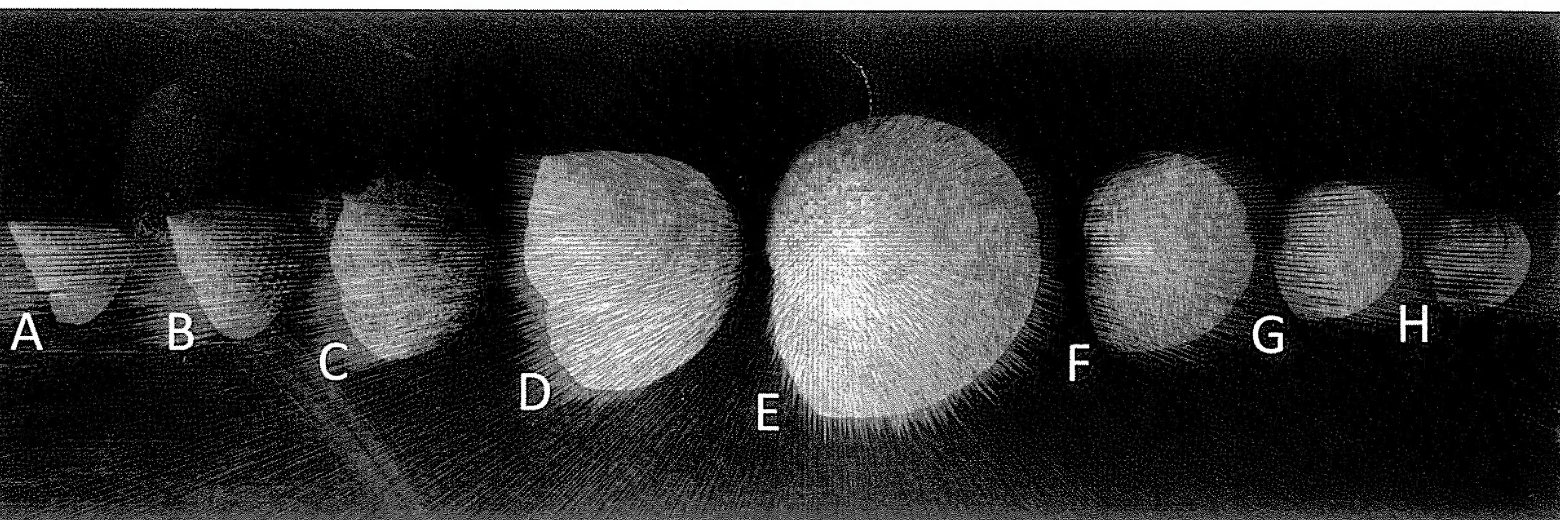
Coast

Living in
RUSSELL

Shell collecting
UNDERGROUND

Pelorus Sound

Identification challenge:



Solution inside rear cover

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Editorial

This is our tenth and final issue as editors of *Cookia*. Thank you very much to all of our wonderful contributors and for the great feedback that we have received over the years.

Cookia has been produced by the Wellington Shell Club since 1976: a great achievement for a small, non-profit club.

We have aimed to maintain the high standards of editors past, to include diverse scientific and non-scientific content, and to ensure all Club members find *Cookia* of interest. We both feel proud of *Cookia* and have mixed feelings about giving up our roles. We hope to continue to contribute articles to future issues and that you will join us in supporting the new editors in 2022 and beyond.

*Pat Lakeman and
Kerry Walton*

Cover photo:

Penion ormesii (Powell, 1927)

Trawled in 170-200 m off Cape Farewell, NW South Island.

The Carson's North Island trip, March-April 2021

by Kathy Carson & Pat Lakeman

In March 2020, Kathy and Les Carson had started a trip north from their Christchurch home but were forced to make a mad dash back from East Cape due to an imminent Covid-19 lockdown. Not to be denied their plans, a year later they hooked up their "pop-top" camper and set off once again. In July 2021, they came to Wellington to tell us about it at the July shell club meeting.

Travelling north to Picton from Christchurch, no shell collector easily passes the turn off to Marfells Beach, and for covering that bit of extra distance, Kathy was rewarded with her first collect of *Globisium drewi* (Murdoch, 1899).

After a good ferry crossing from Picton to Wellington, the Carsons' first North Island stop was Mahia. Rough weather before they got there meant the beaches were largely scoured clean, but as a lover of micro-molluscs Kathy was happy to collect some shell sand off the platforms.

The next target was a five-night stay at Te Araroa in Eastland. Day one brought a visit to Lottin Pont but there were large numbers of campers so Kathy and Les just had a relaxing day. Then, on successive days they

went to the different areas of the platforms at Te Araroa. This was good collecting territory, with live *Buccinum colensoi* (Suter, 1908) and *Murexsul mariae* Finlay, 1930 as well as dead *B. fuscozonatum* (Suter, 1908), *Cominella tologaensis* Ponder, 1968 and *Ellatritia merces* (Iredale, 1924) all present. And in this area, where the road turns in just before the lighthouse, Kathy found the highlight of the whole trip – *Argonauta argo* Linnaeus, 1758, measuring 160 mm (also featured in *Notes on NZ Collected Species* elsewhere in this issue). This was a doubly lucky find as, very close to the shell, there were fresh tyre tracks that with just a slightly different orientation would have crushed this specimen into oblivion. On the platforms nearby Kathy also found an excellent *Maurea tigris* (Gmelin, 1791) – what a day!

Having wisely pre-booked a campsite for Easter at Ohope Beach (where yes, it proved to be packed with holiday makers), Kathy and Les made their way there via Waihou Bay and Orete Point. Good collects from this area included a fine *Charonia lampas* (Linnaeus, 1758), *Janthina* spp. and

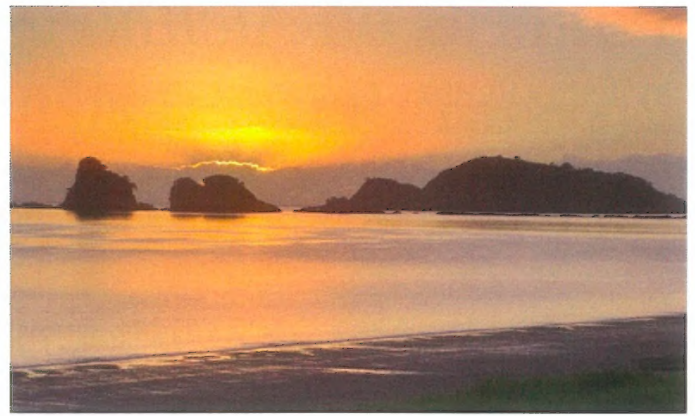
two very nice specimens of *Recluzia lutea* (Bennett, 1840) – at what is thought



Left: Rock platforms near Te Araroa

Above right, from top: *Argonauta argo* Linnaeus, 1758; *Maurea tigris* (Gmelin, 1791); *Astraea heliotropium* (Martyn, 1784); *Xenophora neozelanica* Suter, 1908.

Opposite page, top: Bland Bay by day and at sunrise. The island is Pananehe Island



to be the southernmost locality in New Zealand for this species (this find also features in *Notes on NZ Collected Species* elsewhere in this issue).

After a day of relaxation over Easter, Kathy and Les visited club members Ann and Derrick Crosby at their Whakatane home, then continued on for an uneventful overnight stop at Waihi, and then pushed north to Orewa where they visited Kathy's sister who lives on the Whangaparaoa Peninsula. Next was a visit to club members Kevin and Judy Burch in Whangarei, where Kevin joined them for a day in the vicinity of the Tutukaka Lighthouse. Again some nice shell sand to sort. Then the Carsons continued north to Rarawa Beach. Here there had been high winds and a strong onshore breeze, and as a result the beaches were mostly swept clean. Nevertheless, the shell graveyard at Paxton Point yielded an *Astraea heliotropium* (Martyn, 1784), and mostly buried in sand on Great Exhibition Bay was a very nice, stone-covered *Xenophora neozelanica* Suter, 1908, measuring about 70 mm.

At Spirits Bay there was a rough swell that prevented access around the island at Kapowairua. Kathy was disappointed to be able to collect only a small amount of shell sand there.

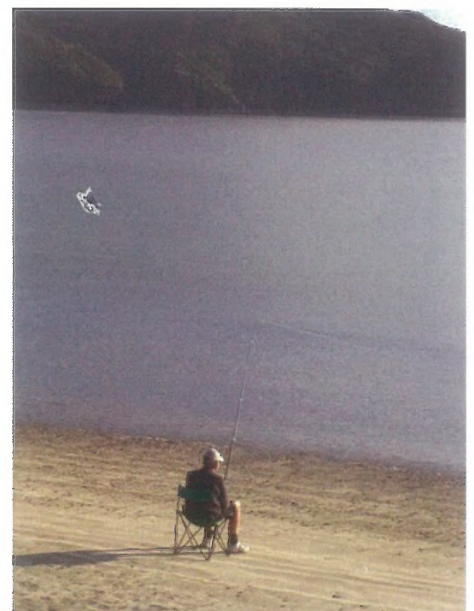
On the way back, Te Hapua delivered up *Cabestana spengleri* (Perry, 1811), *Cominella virgata* H. Adams & A. Adams, 1853 and *Monoplex parthenopeus* (Salis Marschlin, 1793). Kathy walked the whole length of the beach at Matai Bay but did not find *Notocochlis gualteriana* (Récluz, 1844) and *Notocochlis cernica* (Jousseume, 1874) as she had hoped to; and then at Henderson Beach she looked for *Angustassimineia vulgaris* (Webster, 1905) in the splash zone, but without success.

The campsite for their Bland Bay stay was right on the edge of the beach, affording splendid views and spectacular sunrises. Kathy trekked right round to "the hat" where there are exposed platforms at low tide but it became difficult to venture further. Well rewarded for her effort, she found *Ellatrivia merces* (Iredale, 1924), *Volutomitra obscura* (F.W Hutton, 1873), *Monoplex parthenopeus* (Salis Marschlin, 1793), *Amalda novaezelandiae* (G. B. Sowerby II, 1859) and *Amalda northlandica* Hart, 1995. And, vying with her *A. argo* for the title of "best find", Kathy found two *Oppomorus noduliferus* (Menke, 1829) alive in a rock pool.

Less exciting but still interesting to see were *Aplysia argus* Rüppell & Leuckart, 1830 and *Aplysia* cf.

parvula (Mörch, 1863), the latter being sufficiently close to dead for Kathy to take its shell.

While Kathy had been hauling in these great finds, Les had hauled in a 5½ kg snapper (no, he didn't throw it back). His excitement had come from hooking two kingfish that snapped his line easily and got away – he swears he will take a much heavier, braided line next time! All in all, a very enjoyable and productive five weeks in the North Island. On their travels home they stopped off at Rotorua for a most welcoming soak in the hot pools to ease their weary bodies.



All photos by Kathy and Les Carson.

Patterns on *Alcithoe* specimens

by Jenny Raven

Many New Zealand species in the genus *Alcithoe* have distinctive patterns and whilst other distinguishing features must be considered when identifying a species, the patterns can at least be a pointer. I recently acquired some *Alcithoe* shells with a pattern that was different from any others I had seen. They were labelled *Alcithoe jaculoides* Powell, 1924, trawled from 120 metres, north of Westport - but the pattern looked unusual. These shells were slender and around 150 mm in length with four distinctive columella plaits. This and their location from the northwest of the South Island meant they could potentially be *Alcithoe larochei ostenfeldi* (Iredale, 1937). This subspecies has generally been

regarded as pattern-less (Powell 1979) or at best, having barely visible brown axial lines (Bail and Limpus, 2005). Notwithstanding which *Alcithoe* species or subspecies these shells are, the patterns on my shells are distinctive with brown intersecting wavy lines forming incomplete bands; the widest being around the base.

About the same time I obtained an *Alcithoe* shell labelled *A. larochei* with a strong pattern. This species has also generally been regarded as pattern-less, or rarely with a thin subsutural band and faint brown parallel axial lines (Bail and Limpus, 2005). The pattern on my shell comprises several strong, separate, wavy axial brown lines without definite banding. It is proportionately

squatter than the shells described above, with a smaller protoconch and only three distinctive columella plaits. This shell is labelled from 170-200 metres off Cape Farewell, i.e., further north than the others.

Some species may have been regarded as pattern-less in the past due to a lack of specimens available for study or the nature of the substrate they are living on affecting the animal and shell surface. It would be worth checking your volutes and looking out for others from this area or further north, for comparison.



***Alcithoe* specimens showing pattern variations; in both photographs, the shell from Cape Farewell is on the right. The other shells are from north of Westport.**

Photos by Jenny Raven.

References:

- POWELL, A.W.B. 1979. New Zealand Mollusca: Marine, Land and Freshwater Shells. Collins, Auckland.
- BAIL, P. & LIMPUS, A. 2005. The Recent volutes of New Zealand, with a revision of the genus *Alcithoe* H. & A. Adams, 1853, in: A Conchological Iconography. G. Poppe, and K. Groh, eds., ConchBooks, Germany.

Species spotlight:

Cantharidus puysegurensis (Powell, 1939)

by Kerry Walton

Cantharidus puysegurensis (Powell, 1939) has long been something of an enigma. It is perhaps the smallest of our extant cantharidines, not exceeding 5 mm in width, and while it ranges throughout the South Island, it is most common in Fiordland or on the west coast – regions seldom visited by shell collectors and generally not conducive to shore collecting anyway. Without familiarity, it can be very difficult to identify, and is, accordingly, very rare in private collections.

C. puysegurensis superficially resembles, and is often confused with: *Microelenchus tessellatus* (A. Adams, 1853), *C. antipodum* (Hombron & Jacquinot, 1848), *C. turneri* (Powell, 1939) and, surprisingly, *Diloma coracinum* (Philippi, 1851). From all four species, *C. puysegurensis* differs principally in attaining smaller size at maturity. In profile, mature specimens of *M. tessellatus*, *C. turneri* and *C. antipodum* can be very similar to *C. puysegurensis*. However, individuals of the three former species will be immature and have more inflated whorls than mature *C. puysegurensis* of the same size. *D. coracinum* co-occurs in abundance (sympatric but

not syntopic – i.e., same place, different habitat) with *C.*

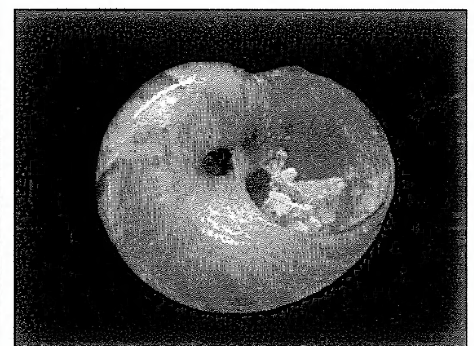
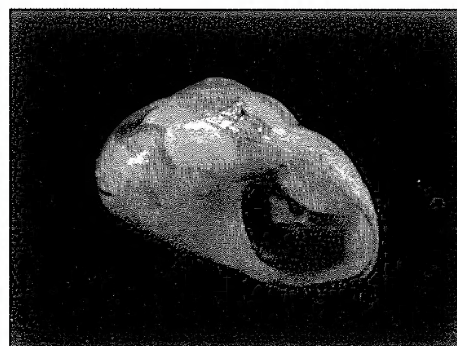
puysegurensis, and juveniles of this species have a very similar profile and pattern to similarly sized *C. puysegurensis*. However, *D. coracinum* has a closed umbilicus throughout ontogeny, whereas that of *C. puysegurensis*, while narrow, is always open.

Museum of New Zealand Te Papa Tongarewa (Te Papa) holds several large live-collected lots of *C. puysegurensis*. Clearly it is not uncommon in the right place and habitat. But where exactly is that? When Andrew Spurgeon travelled up the west coast in 2020, I suggested that he visit a few spots where I knew *C. puysegurensis* had been collected in the past, not that I suspect he needed the help! It was a species of interest to us both. By collecting by feel many small trochids in the surge near Westport, Andrew managed to obtain two or three specimens of *C. puysegurensis*, one of which he generously gifted to the University of Otago for genetic research. However, he had not been able to note the exact habitat beyond ‘low-tide rocks’. I had a suspicion that the habitat would

prove to be somewhat niche (if you’ll pardon the pun).

Meredith and I spent the Christmas/New Year break of 2020/2021 cruising up the west coast and I resolved to find this species that had hitherto eluded me. Despite stopping at many places, we were running empty handed, but on the day that we were due to head inland to meet up with some friends and go tramping instead, we struck gold. We had been staying at the lovely Gentle Annie campground, at the Mokihinui River mouth, just north of Westport. On our way there, we had passed a boulder reef sticking out of the otherwise sandy beach halfway between the Mokihinui river mouth and Hector to the south. Finding the public accessway was no easy task, but we made it, and were rewarded with some excellent collecting.

The sandy beach was extremely exposed to the west. Large boulders were strewn along the low-tide region, each surrounded by a deep pool rimmed with sand and formed by the surge of retreating waves from the preceding high tide. In many of these pools, small, easily turned rocks were



Cantharidus puysegurensis (Powell, 1939) from Westport, Buller, New Zealand. Specimen width: 3.5 mm.

Photos: Andrew Spurgeon



present, each completely smooth and well-rounded by the rock-tumbler-like environment in which they were placed. The rocks appeared to have no life on them at all, and why would they, in so dynamic and tumultuous an environment. Remarkably,



however, under each rock were several living *C. puysegurensis*. About half dislodged and fell to the sand even if the rocks were handled with great care. I wonder how they see through the high tides when the pools must receive a constant

battering from the waves.

Several specimens were collected and preserved in 98% ethanol and sent to Te Papa for future reference and study.

Specimens and in situ images: Station KW20-107, Lot M.331131.

Under smallish (10-30 cm width), rounded, smooth, clean and loose rocks on sand in low-tide pools. 41°34.28'S, 171°54.26'E (actual). Section of beach with boulder reef halfway between Hector and Mokihiui, Buller, New Zealand.

In situ photos, and collected by: Kerry Walton and Meredith Walton, 29 December 2020.

From ordinary to special

by Kris Woods

In late January 2021 excited reports spread like wildfire through the Wellington Shell Club and the club's Facebook page that exceptionally large numbers of *Maurea selecta* (Dillwyn, 1817) were washing ashore at the river mouth at Waikawa Beach in the Horowhenua region. I ventured there several days later and there were still plenty of specimens washed up. Even with the considerably reduced number by then, I encountered more on that day than I have seen during any one visit in all my years of collecting.

I gathered up a decent number including this worn but remarkably interesting specimen. It had a cluster of attached barnacles, *Notomegabalanus decorus* (Darwin, 1854). Washed up shells with barnacles attached are commonly found on the Kāpiti and Horowhenua beaches and when I spot them, they're usually left on the sand. However, this shell particularly impressed me with its unusually tall and elegant attachment, transforming an ordinary *M. selecta* into something rather special and worthy of collecting.



Combing the coast

by Bev Elliott

This article first appeared, in a slightly longer form, in *Poirieria* vol. 31 (2005). At that time, photographs were not published and Bev's drawings of the fossils were not reproduced to scale. So it didn't do justice to the fossils Bev collected in her long trek (in many instalments but approximately 300 km overall) from Blenheim to Christchurch. That amazing achievement was also behind the cryptic remark "20 years ago I walked that entire coastline from Kaikoura to Christchurch" in her story "Cutting it fine" in *Cookia* vol. 32 (2020) in which she told why she also travelled that distance by rescue helicopter on the eve of a Covid-19 lockdown.

Bev has always had a keen interest in tramping, shells, photography, bird watching, beachcombing, and picking up rubbish from beaches. In the 1992, when she was seeking employment, she was even paid for beach cleaning for a period – 6 hours per day, 3 days per week, at \$1 per hour! Paid or not, Bev covered 26 km of coastline on a regular basis, and after several years this was given due recognition when the local council presented her with a Community Services Medal for her work.

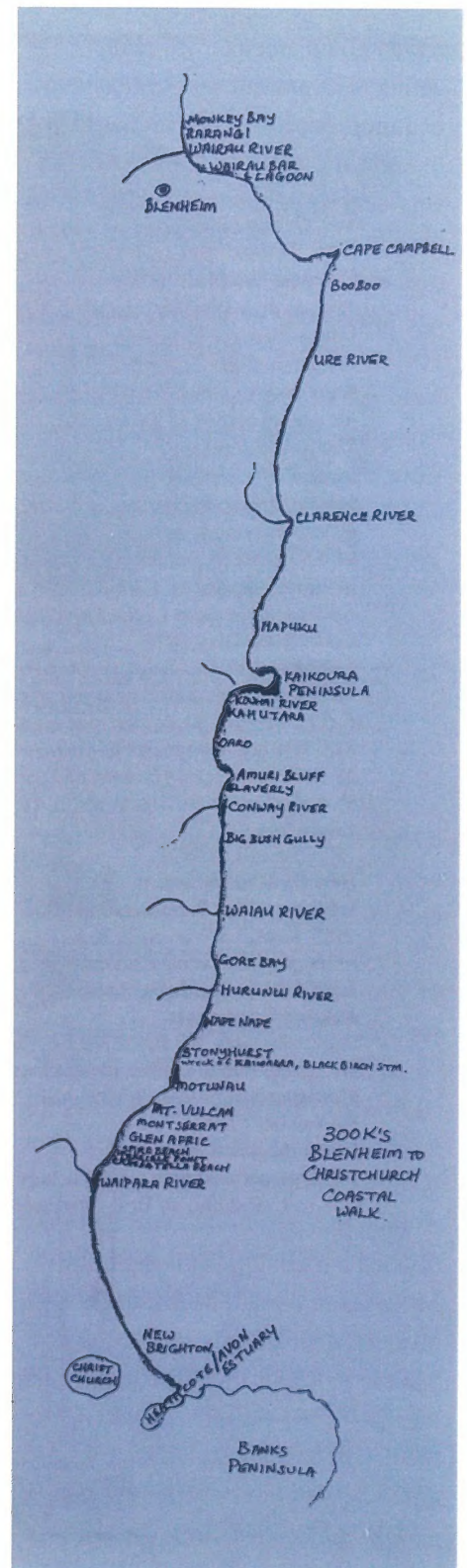
Then, in 1997, Bev got a bigger idea:

"In September 1997, on a trip to Cape Campbell, I walked down the coast to Boo Boo Stream, and had the satisfaction of knowing that, over the years, I had walked 55 consecutive km of coastline, from Ure River to Wairau Lagoon. I had also walked from Big Bush Gully to Waiau Mouth in September 1993. (That trip, with its haul of well over 100 *Talochlamys gemmulata* (Reeve, 1853), was

reported in *Poirieria* vol. 17 no. 1 1994.)

The several kilometres from Oaro to Claverly, around the beautiful and fascinating Amuri Bluff, were often on our tramping group programme, and occasionally the Gore Bay to Hurunui Walkway was too. And I had explored the Motunau area for fossils. I began to wonder how far north and how far south one could walk along the coastline.

The Marlborough Sounds would be impossibly difficult. So I started at Monkey Bay, north of Blenheim, in July 1998, and walked along Rarangi Beach to Wairau Mouth. Then I got permission to cross private land to the Wairau Bar and walked along to the south side of Wairau Mouth. I put several long beach walks on the tramping group programme, and began filling in the gaps from Ure to Clarence to Hapuku (north of Kaikoura), and Kahutara to Oaro (south of Kaikoura). Gore Bay to Waiau Mouth went on the programme, and in October 1998, four eager trampers set off, little dreaming of the obstacles that lay ahead. Steep cliffs, jagged rocks and an exploding population of seals, which included two or three that were prepared to defend their beach against the human invaders! I found myself alone, facing a very determined seal, while my trusty companions were scaling the nearby cliff with surprising agility! It was time to give up, as the tide was almost low, and we were only a quarter of the way. If one could have low tide all the way, it would be okay, but on a trip that was going to take five hours each way, high tide had to come into it



Bev's drawing of her coastal walk; all photos on following pages by Bev Elliott.

somewhere.

It wasn't until my fifth try that I actually completed it, by starting before daylight, shortly before high tide, and I just kept going, no matter what. I had to be prepared to get wet, and to go up and over if I really couldn't go around, and I refused to be intimidated by any seal that I thought shouldn't be there. Seals are very seldom aggressive, but the sheer numbers in this area are rather daunting. I was told that a few years ago there were 30 or 40; now (March 2000) there are 3000 to 4000, with hundreds of young ones coming on. It was great to watch the baby seals frolicking in a big pool at low tide, and then further north a lovely waterfall comes over the cliff into the sea, with lots of young seals sitting on the rocks around it. The high tidal difficulties faced in the morning were all gone by midday, and with the tide out, the return trip was so much easier.

Nape Nape to Motunau was going to be a difficult piece of coastline. I called at Stonyhurst, halfway between the two, and was refused permission even to walk across the paddock to see what the coast was like. I said that "You can't stop me walking along the coast – you can only make my walk a whole lot more difficult and risky." With access through Stonyhurst denied, that part of the walk had to be divided in two. Up the coast from Motunau proved to be mostly easy after all, a long sandy beach that I walked in March 1999. I encountered a yellow-eyed penguin, moulting there. The sandy beach ended abruptly with a very difficult point near Black Birch Stream. At low tide the water was knee deep as I paddled around, and I had to get back withing an hour before the tide started rising. A little further north I found the remains of the steamer *Kaiwarra*,

wrecked there in 1942. What an inhospitable place to be shipwrecked! Her crew of 45 were all rescued, but not until three days later, and it must have been a very anxious time of waiting.

In April 1999, a month later, I was on my way back to the *Kaiwarra*, this time from the north. This piece of coastline was the most amazing of all, with fantastic cliffs and spires of white limestone. It was also the most difficult, quite impossible in places, making it necessary to retreat to the cliff tops. The scenery was even more spectacular along the beach at low tide on the way back.

South of Motunau was going to be too difficult, and for a while I was satisfied with having completed Blenheim to Motunau, 230 km. But Blenheim to Christchurch would sound so much more impressive. Maybe the long sandy beaches from Waipara south to Chrsitchurch wouldn't be as boring as I thought. And maybe the rocky coast north of Waipara wouldn't be as impossible as I thought. In October 1999 Olive Boyd and I had a scenic coastal flight from Kaikoura to Waipara, an 80th birthday present for her, and for me a wonderful opportunity to see from the air the places I'd walked, and also the places I hadn't walked. Some of which looked very formidable. Much time was spent later, poring over the

From top:

Amalda sp., Crassatella Beach

Cirsotrema lyratum (Zittel, 1865), south of Nape Nape

Cominella hendersoni Marwick, 1926, Terrible Point

Crassostrea ingens (Zittel, 1865), Crassatella Beach - "just a little one (about 250 mm)" says Bev - "I couldn't carry the bigger one".

Cucullaea inarata Finlay & Marwick, 1937, Double Point



photos we'd taken.

In November 1999 an operation on my foot put me out of action for a while, but at Easter 2000 I contacted Ross Little at Mt Vulcan, south of Motunau. What a contrast – he couldn't have been more obliging, and with his advice and assistance, I walked the long length of rocky and very isolated coastline from Motunau to Montserrat to Glen Afric. Although Motunau and Glen Afric are both interesting fossil areas, it was disappointing to find between them a long stretch of nothing much.

In June 2000, looking for easy tramps to do in the winter, I started on the long sandy beaches north of Christchurch, and finished them in October, a little here and a little there, not in consecutive order. The southernmost piece, from New Brighton Pier to Heathcote/Avon Estuary, was done on a brilliant August day, and it was a great thrill to reach the end of the 300 km tramp, even though there were still some parts further north to do. 18 little wrybills were there to greet me, as well as flocks of oystercatchers and gulls.

At this stage, August/September 2000, I was ready to tackle the next part of the difficult rocky coast, from Glen Afric to Waipara. Each time the tides were right, the weather was not. The rain came down in bucketfuls, and the wind blew gales! On 11 October I drove to my destination at Waipara, determined to wait until the weather improved. And wait I certainly did, right through the notorious 12 October storm that did so much damage to Christchurch and Banks Peninsula. By 14 October the weather was fine, and I set off down the coast from Glen Afric to see if I could get south to Waipara. But once the sandy beach ended, the rocky

From top: *Dentalium centennale* Marwick, 1942; *Dosinia bensoni* Marwick, 1927; *Eucrassatella ampla* (Zittel, 1865); *Maoricrypta radiata* (F.W. Hutton, 1873) - all from Crassatella Beach



coast was so rough that I had to seek a way on to the cliff top – and once I got on the cliff top, there were some great views of the coast down below, but no way of getting down to it. I covered a long way that day, and could see my goal in the distance, but it was too far, and the going through Waipara pine forest was too tough, and there was still no way down to the beach. This time I returned with a heavy bag of fossils. *Eucrassatella ampla* (Zittel, 1865) shells, *Cucullaea inarata* Finlay & Marwick, 1937 (ark shell), *Tumidocarcinus giganteus* Glaessner, 1960 (crabs) and *Flabellum* sp. (coral).

The last few kilometres of coastline would have to be tackled from the Waipara end. And I knew it would be rough, as I'd tried it some years before, and found it far too difficult. But this time so much was at stake – I was going to complete Blenheim to Christchurch no matter what. So I just kept scrambling over huge rocks, on and on, until at last I rounded a corner on to the sandy beach I'd photographed from the cliff top a month earlier. I'D DONE IT!!! And at the same moment I saw a thick band of *E. ampla* along the bottom of the cliff, and there were other fossils further along, and a nesting colony of black backed gulls on the beach, and spotted shags nesting on the cliffs above – oh the excitement of trying to collect fossils, and observe the birds, and take photos, and explore further while the tide was low, while being very careful to watch the tide, and retreat before the tide started to rise.

This was in November 2000, and in December 2000 I was back there again, this time with nine

companions. What a great day out for this group of Creation Science supporters, and some heavy loads of fossils were carried out that day. The spotted shags, however, were not enjoying life at all. Many of the growing chicks had fallen out of their nests and tumbled down the cliff, with very high mortality. Some had survived, and were waiting in the hot sun for their parents to come back and feed them. In March 2001 I returned for one more visit, to try to link up with where I had come south from Glen Afric. Along “Crassatella Beach”, around “Terrible Point” (which isn’t terrible at all, at low tide), along “Spire Beach” with

its two spectacular rocky spires – just one short piece to go, but time was running out, and the going was getting rougher with huge steep rocks, and the cliffs unclimbable. Some of the spotted shags had survived the tumble down the cliff and all the other dangers of life, and one of my photos shows over 50 young adult shags on a big rock at “Spire Beach”.”

In all these travels, Bev encountered a huge assortment of things on the beaches, including vast amounts of polystyrene and plastic; hundreds of bottles and cans; floats, ropes and nets from boats; clothing and footwear; snorkels, facemasks and

flippers; camping equipment; golf balls, woolly hats and even holiday films and cameras. Bev recycled all that was useful. The shells she came across were more for shell work than her collection, but “In 2000 and 2001 I found six paper nautilus shells, the only ones I’ve found in 50 years of shell collecting.”

Bev recorded dead birds for the Ornithological Society, and among the many live bird species she saw were three rare penguins: yellow eyed, erect crested and a single, very healthy adeli. Other live creatures seen were fur seals by the thousands, a Hooker’s sea lion, sea leopards and juvenile sea elephants. Dead creatures



Above, left to right:

Penion sp., Terrible Point; *Struthiolaria spinosa* F.W. Hutton, 1885, Crassatella Beach; *Tropicolpus abscisus* (Suter, 1917), Glen Afric

Footnote:

Bev points out that some of her fossil finds come from extremely isolated areas of the north Canterbury coast where there are no names on the map, so she has made up her own: “Glen Afric is a genuine name, then as you go south the sandy beach ends at “Double Point” (my name for two points very close together) and beyond there the coastline is simply tumultuous, and I had to retreat to where I could clamber up to the cliff top. Once on the clifftop, it was impossible to get back down to the beach, as I passed “Spire Beach” with its two lovely rock spires, “Terrible Point” and “Crassatella Beach”. By this time I was clambering through fallen trunks and branches in a horrible pine forest, and there was still no way down, and the sandy beach north of Waipara River was still a distant blur - it was time to get back to my van at Glen Afric. I knew what it was like starting at the south end and coming north, as I’d given up on that years ago. But now I just had to complete my big coastal walk no matter what obstacles there were. So on the next low tides I started at the Waipara end and just kept going till I reached sandy Crassatella Beach, and Terrible Point which isn’t terrible at low tide, though still no way up or down that cliff. I made another visit later to walk even further along Spire Beach in an all-out effort to reach Glen Afric at sea level. But it was too far and too rough, and one has to be so aware of the time and the tide, and not get cut off on the way back. So there’s a wee bit I’ve done only along the cliff top.”

included a sperm whale, part of a giant squid, two giant sunfish, occasional dead sharks and dolphins, and dead basking sharks: “These monstrous creatures have a strange way of decaying. When they are about half rotted away, they have a long neck with a small head, and a long tail, and somewhat resemble a plesiosaur. It was one of these that gave rise to the myth that Japanese fishermen netted a dead plesiosaur off the east coast of New Zealand in the

1970s.”

“And the fossils!” Bev enthuses. “Only a few places along the coast have fossils: Amuri Bluff (lots of belemnites (squid-like cephalopods) and a few bits of plesiosaur bone), Big Bush Gully (a good selection of shells), south of Nape Nape, Motunau, Glen Afric, and the coastline north of Waipara.”



Left:
Zeacuminia orycta (Suter, 1913)

Right:
Zelandiella sp.



Fossils collected from north of Waipara included:

Alcithoe sp.
Alocospira subhebera (Marwick, 1926)
Amalda novaezelandiae (G.B. Sowerby II, 1859) and larger olives similar to *Oliva australis* Duclos, 1835
Austrotoma obsoleta Finlay, 1926
Bassina yatei (Gray, 1835)
Cominella sp. and other whelks
Cyclomactra ovata (Gray, 1843)
Dosinia bensoni Marwick, 1927 (huge)
Dosinia greyi Zittel, 1865
Dentalium sp. (large, and lots of them)
Eucrassatella ampla (Zittel, 1865)
Glycymeris sp. (8 cm)
Maoricardium sp. (huge, but only pieces)
Maoricrypta radiata (F.W. Hutton, 1873)
Ostrea sp. (huge! - the hinge alone 10 cm across, and the best one too big to carry)
Panopea sp.

Pectinidae specimens

Polinices sp. (moon shells, many of them)
Struthiolaria spinosa F.W. Hutton, 1885
Taxonia suteri (Marwick, 1924)
Tudicula sp. (one)
Zeacuminia orycta (Suter, 1913)
Zelandiella sp. (similar to *Austrofusus* sp. but smaller and rounder)

Fossils collected from Glen Afric included:

Cardium sp. (large)
Cucullaea inarata Finlay & Marwick, 1937
Eucrassatella ampla (Zittel, 1865)
Flabellum sp. (coral)
Pectinidae specimens (like *Mesopeplum convexum* (Quoy & Gaimard, 1835), but bigger)
Tumidocarcinus giganteus Glaessner, 1960 (the giant crabs for which Glen Afric is famous, but I only found a few scrappy bits and pieces)
Turritella sp. (giant, 10 cm)

Species spotlight:

Atalacmea multilinea Powell, 1934

by Kerry Walton

I first heard about *Atalacmea multilinea* Powell, 1934, which is the rarer 'southern cousin' to *Atalacmea fragilis* (G.B. Sowerby I, 1823), in the early 2000s. My mother and I had been about to drive along the Catlins Coast fossicking for shells, and Jenny Raven suggested that we look for this approximately 1 cm limpet in the shell sand at Waipapa Point and at the southeastern end of Porpoise Bay. We did, and we found half a dozen or so. Back then, I was less interested in small molluscs (this may be too large to qualify for the 'micro-mollusc' title), and I proceeded to not give the species very much thought until early this year, when Hamish Spencer asked if I had found any around Otago, which is the type locality. I hadn't.

A. multilinea ranges from northern Otago to Fiordland and Stewart Island. The species has only been collected a small number of times and was known from perhaps as few as a couple of dozen specimens collectively held between institutional and private collections. When I

realised this, I went looking to see if I could find those that I collected in the early 2000s, but they were gone. I had probably given them away completely unaware of their rarity.

When Saryu Mae called in to visit us for a few days in January, I took the opportunity to target this species while I was showing him the Catlins region. We went directly to Waipapa Point, which has long been my favourite spot in the region and will soon be off-limits to collectors with the establishment of a new marine reserve. It probably has the best shelling in the region where, in general, the beaches are not great for shell collecting, but knowledge of the habitats of the local species can yield quite decent returns for visiting collectors. Several species occur in Southland that are rare or absent elsewhere on the New Zealand mainland.

I was expecting to find *A. multilinea*, but I wouldn't have said that I was confident we would find it. What I was not expecting to find was dozens

of them. The habitat is basically the same as for the more common and widespread *A. fragilis*. They seem to prefer mid-tidal pools over those right on or below the low-tide mark, so an enthusiastic hunt at the edge of low-tide might miss them entirely. The boulders they lived under seemed likely to roll with each wave, and on so exposed a section of coast, this habitat choice for an extremely delicate limpet seems impossible.

The species co-occurred with congener *A. fragilis*, with both species occurring commonly within the same pool. However, curiously, the two species, with a single exception (that being a juvenile and possibly confused *A. fragilis*), refused to share rocks, despite most rocks of suitable size hosting several individuals of whichever species happened to be under it. Both species would move quickly to the shaded side of a rock when the rock was turned over, but *A. multilinea* seemed to move much quicker.

The two species are easy to

Below: *Atalacmea multilinea* Powell, 1934

Specimens and images: Station KW21-008, Lot M.331108.

Under smallish (10-30 cm width), flattish, rounded, smooth and minimally encrusted rocks in mid-tide pools. 46°39.72'S, 168°50.86'E (actual). Due south of the lighthouse at Waipapa Point, Southland, New Zealand.

Collected: Kerry Walton and Saryu Mae, 16 January 2021. Photos: Saryu Mae



distinguish with multiple specimens in-hand, but it can be tricky to identify them from a single individual or if using a single key character. Juvenile *A. fragilis* often appear brown, and *A. multilinea* is often covered with a green algal growth. That books and websites tend to only illustrate nice mature clean specimens does not prepare one for such situations! *A. multilinea* does not grow as large as *A. fragilis*. It has thinner, more numerous and more densely packed brown spiral lines, and the lines are



Atalacmea fragilis (G.B. Sowerby I, 1823)

over a buff-cream background (giving the shell an overall brown appearance) rather than on a green background, as in *A. fragilis* (which has a dirty green overall appearance). The ‘animal’ (in quotations because the shell is technically part of the animal) of *A. multilinea* is buff (in colour) rather than pale-green.

Several specimens were preserved in 98% ethanol and sent to Museum of New Zealand Te Papa Tongarewa for future reference and study.

Before and after - cleaning a *Charonia lampas* (Linnaeus, 1758)

by Jenny Raven

A *Charonia lampas* (Linnaeus, 1758) shell, which I found thrown up on the beach at Bland Bay, was coated in a hard white limey growth and destined for the garden when I noted some tantalising patches of colour beneath its surface. I tried to chip the white coating off but it was as hard as concrete. I dropped the shell in a bucket of diluted bleach followed by diluted caustic soda, but the coating held fast. I next took to it with a chisel. It withstood the considerable downward pressure exerted on it by

the chisel, although some pieces of coating did come off. I next decided to try the Club’s electronic “UltraKleen” shell cleaner. This pumps water under pressure to a metal pick which when carefully worked over shell growth will usually remove it. Amazingly the cleaner started to separate the hard white coating from the shell. The pick can only cover a few millimetres at a time and it was necessary to carefully move over each small area for several minutes before moving on. Hours

passed and slowly, colour replaced the white. Unfortunately, some areas of green were found beneath the white growth and a bleach paste was necessary to remove this. With a final scrub, a handsome *C. lampas* was revealed that any collector would be proud of, as shown in the photo - thanks to the Club’s shell cleaner and the operator, who needed a Panadol after all that.



Living in Russell

by Jenny Raven



This story could well be entitled “Tonmas at Tokerau” as, after many years of collecting shells, I have at last experienced the sight of many *Tonna* shells washing in on a beach. For a Wellingtonian, who is only a part time resident of Russell, this was a sight I had heard others speak of but had never experienced. “Wait three tides after the wind has blown strongly from opposite directions” some had advised. Tokerau is a long sandy beach on the Karikari Peninsula. It is a 120 km, two-hour drive north of Russell which, with cafes and other sights en route, provides a pleasant day’s outing. I have walked on Tokerau many times in the past; most often worn *Cominella adspersa* (Bruguère, 1789), *Struthiolaria papulosa* (Martyn, 1784) and common bivalves prevail. I once found two *Austrodrillia rawitensis* Hedley, 1922 under a rock at the north end of the beach; another time the beach was littered with small *Zenatia acinaces* (Quoy & Gaimard, 1835). Sometimes nice red *Micrelenchus purpureus* (Gmelin, 1791) and *Bassina yatei* (Gray, 1835) are washed in and a

couple of times there was some good shell sand.

Tokerau Beach faces southeast and I was lucky on arriving in Russell in late May 2021 that it had been blowing hard from the southeast for several days. There had been warnings of big swells along the east coast and when I ventured out the next day, the seas were still huge. Both Taupiri and Bland Bays were swept clean with a tide line well up the bank at the back of the beach. I then went to Matauri Bay, north of Kerikeri and was rewarded with the sight of many live dog cockles (*Tucetona laticostata* (Quoy & Gaimard, 1835)) washing ashore – several were a lovely pink colour. This should have been the signal to start looking further but it was two days before I decided to visit the Karikari peninsula. I was on Tokerau Beach at 1pm with the low tide due at 4pm, and I was still there at 5pm when it was past time to go. The north end of the beach was swept clean but a short way south I came upon a large pile of shells high up near the grass berm; most still contained animals. Amongst this

tangled mess I picked out some more pink *T. laticostata*, *Purpurocardia purpurata* (Deshayes, 1854), a couple of purple *S. papulosa* and some yellow/orange *Pellicaria vermis* (Martyn, 1784). There were also many small *Pecten novaezelandiae* Reeve, 1852 and *C. adspersa*. It was interesting that there were no frilled venerids or pink *M. purpureus*.

When these shell washups ran out, I decided to try further south along the beach and ended up walking to the reserve off Melissa Road. Areas of weed littered the beach and as well as more of the shells already mentioned, at the low tide level I found some dark *Penion sulcatus* (Lamarck, 1816) washing in along with several *Oxyperas elongatum* (Quoy & Gaimard, 1835). In the distance I could see a lot more weed on the beach, so I took the car to the end of Simon Urlich Road and started walking south on the beach again. After about 25 minutes I reached the start of the weed and yes, there were shells washing in. It was here I came upon my first *Tonna tankervillii*

Above: Tokerau Beach, looking south

(Hanley, 1860), followed by more; most were sitting upright at the edge of the low tide, all still containing the animal. I probably saw about 20 but only selected a few. Several locals were fossicking among the weed also. After an afternoon of walking, it seemed a long way back but I was pleased to experience Tokerau in a different light from all previous visits and to experience proof that it can be a good shell collecting beach.

I returned twice more to Bland Bay over the next week. Since my first



Above: Shells from Tokerau Beach

visit, heaps of weed had washed in, some piles were up to my waist, and I found a few *P. novaezelandiae*, one *Charonia lampas* (Linnaeus, 1758) and an empty *T. tankervillei* amongst it. A strong wind intervened before my last visit. The weed piles had been flattened but I still found another empty *T. tankervillei* sitting high up at the back of the beach. I look forward to more strong winds and visits to these beaches.

Spreading the freshwater snail net in Otago

by Pete Cresswell

The type locality of the freshwater tateid, *Meridiopyrgus muaupoko* Haase, 2008 was given as Mount Cargill walkway, Dunedin, with distribution to springs and streamlets from Dunedin to the Catlins. In the “supplementary data” publication, other localities were given as Bethunes Gully, Dunedin; Mt Cargill Road, Dunedin and near Niagara, Waikawa, Catlins, in Southland.

Recent collecting has found this species in moss at McLean Falls, Catlins. Using NZ Topo map WSG84 (DM), the coordinates for these falls are 46° 34.17'S; 169° 21.19'E. It has also been found in a similar habitat in Hoods Creek, Purakanui Falls, Catlins (46° 31.02'S; 169° 33.45'E) and in an unnamed waterfall in

Herbert Forest, Otago (45° 14.14'S; 170° 44.47'E). The last locality is WNW

of Hampden, North Otago – significantly north of the distribution area designated by Haase.

Incidentally, at McLean Falls, *M. muaupoko* was found together with *Meridiopyrgus pupiformis* Haase, 2008 and the ubiquitous *Potamopyrgus antipodarum* (Gray, 1843).

With continued sampling, it is likely that many tateids will be found to be

more widely distributed than hitherto recorded.

I am grateful to Dr Bruce Marshall, Consultant Malacologist, Museum of New Zealand Te Papa Tongarewa, for species identification and to Andrew Spurgeon for photographing the illustrated specimen.



*Meridiopyrgus
muaupoko*
Haase, 2008

Photo:
Andrew
Spurgeon

Reference:

HAASE, M. 2008. The radiation of hydrobiid gastropods in New Zealand: a revision including the description of new species based on morphological and mtDNA sequence information. *Systematics and Biodiversity* 6(1):99-159

The green flash

by Pat Lakeman

In *Cookia* Vol. 32 (2020), describing a trip to New Caledonia, Kerry Walton mentioned the phenomenon known as the green flash. This prompted Bev Elliott to write to me: “(It’s) one of those things that it takes half a lifetime to see, and not quite as long to see a second one, by which time you’re beginning to understand the conditions necessary to see it.” In July 2020 Bev saw, at Kaikoura, four green flashes on four consecutive mornings. A friend of hers had been brought up at Hokitika Beach, and green flashes were common to her.

Then, when I was visiting a friend at the Awhitu Peninsula, SW of Auckland, in February 2021, the topic came up again. Gerald Muir showed me some of his excellent videos of Awhitu sunsets, and the photographs that accompany this article are taken from his videos.

Green flashes are real (not illusory) phenomena seen at sunrise and sunset, when some part of the sun

suddenly changes color. The word “flash” refers to the sudden appearance and brief duration of this (usually) green color, which typically lasts only a second or two at moderate latitudes.

As the area that turns green is ordinarily near the limit of the eye's resolution, these are sometimes called “green dot” displays. There are distinct, but related, phenomena known as green rays. These are much rarer: a green flash of the ordinary kind is followed (at sunset) by a brief ray or glow of green, which often appears to shoot up from the sunset point. The green flash/dot/ray are meteorological optical phenomena that occur because the Earth's atmosphere can cause the light from the Sun to separate, or refract, into different colors. A green flash is more likely to be seen in stable, clear air, when more of the light from the setting sun reaches the observer without being scattered.

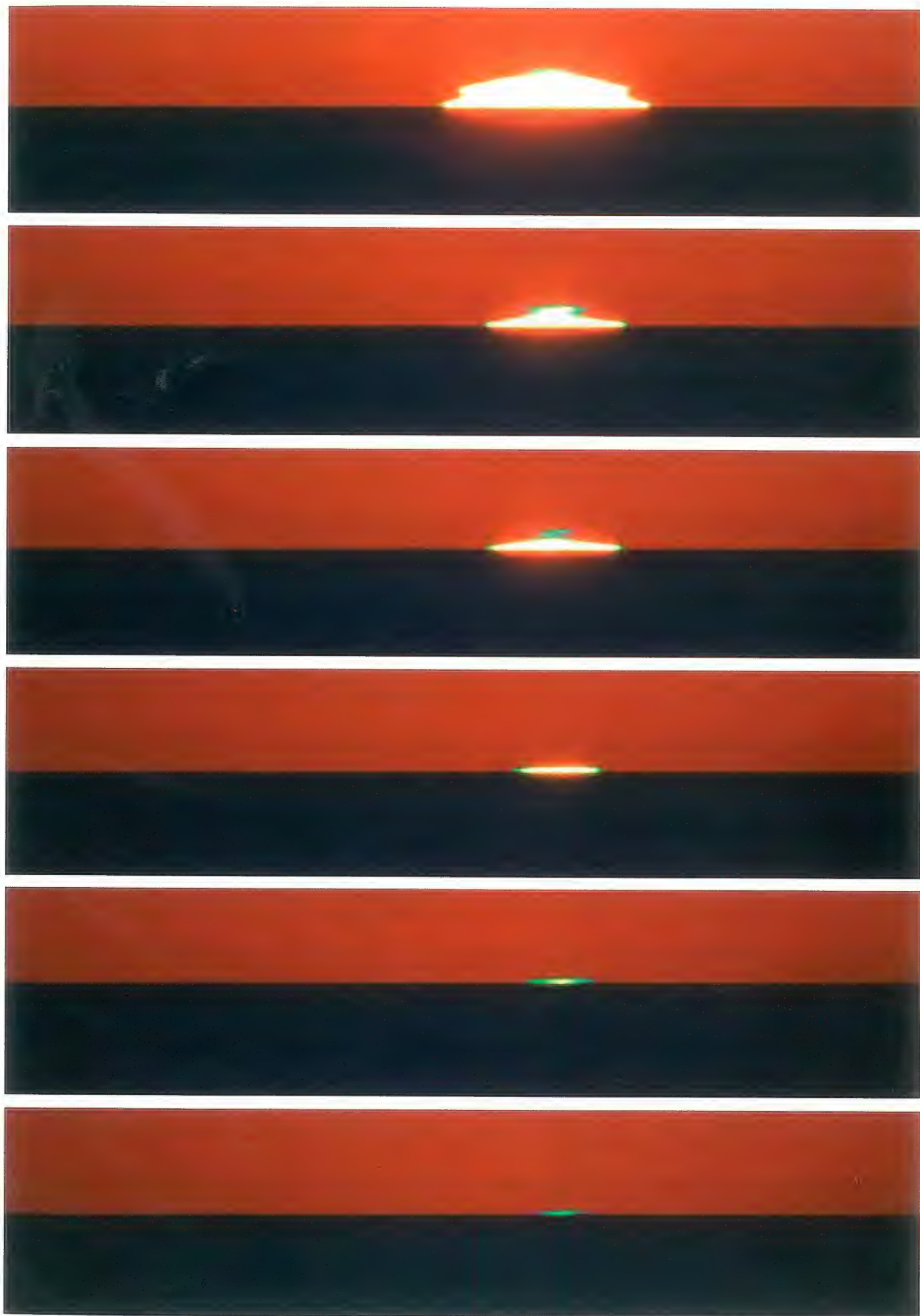
Green flashes may be observed from any altitude. They usually are seen at an unobstructed horizon, such as over the ocean, but are possible over cloud tops and mountain tops as well. They may occur at any latitude, although at the equator, the flash rarely lasts longer than a second. A green flash also may be observed in association with the Moon and bright planets at the horizon, including Venus and Jupiter. With an unrestricted view of the horizon, green flashes are regularly seen by airline pilots, particularly when flying westwards as the sunset is slowed. If the atmosphere is layered, the green flash may appear as a series of flashes.

Something to look out for!

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https://en.wikipedia.org/wiki/Green_flash





Notes on NZ Collected Species



Alcithoe wilsonae

(Powell, 1933)

97 mm x 40 mm. Forma *grahami*, trawled live at 170-180 m at Snares Bank in February 2020. Thanks to Selwyn Bracegirdle for photography.

KEVIN MEAD

Argonauta argo

(Linnaeus, 1758)

Found near Te Araroa, Eastland, in March, 2021. 160 mm.

KATHY CARSON



Prototyphis eos

(F.W. Hutton, 1873)



24 mm. Found in July 2021 in a shallow gravel pool backing onto the island at Opito Bay, Kerikeri. Pink ones were found at this locality in the 1960s but now appear to be scarce as in numerous visits I have only found a few worn, small or holed examples. I think this one must have come in with the May storms and lived for while in the pool. It was still in situ, freshly dead on a ledge just out of the water at low tide. It is one of those finds you have to keep looking at – just to check you really have found it and are not imagining it.

JENNY RAVEN

Recluzia lutea

(Bennett, 1840)

Washed up at Waihau Bay, East Cape, March 2021.
This is the most southern locality recorded for this
species. 23 mm.

KATHY CARSON



Buccinulum vittatum

(Quoy & Gaimard, 1833)

Sinistral specimen, washed up at
Mission Bay, Auckland. November
2020.

JAVIER COUPER

Cantharidus opalus

(Martyn, 1784)

Owhiro Bay, Wellington, April 2021.

MARGARET ELLIOT



cf. *Spurilla* stet.

Under low tide rocks at Waipu Cove,
Northland. January 2021. Possibly *S.*
braziliana, and/or a new record.

JAVIER COUPER



Axymene traversi
(F.W. Hutton, 1873)

A record size specimen at 25.1 mm.
Under wharf, Moeraki, North Otago.
22 November 2020.

KATHY CARSON

Emozamia licina
(Hedley & Petterd, 1906)

I was not planning on going to town that Saturday in 2021, but my husband and I had been working on some modifications to my dredge and I knew that I had to get fuel for the boat if I wished to test the dredge the following day. I Intended on making it a short trip by taking the bypass straight to the Mobil station and then heading straight home. However, that idea changed when, at the beginning of Buffalo Beach, I saw the wharf 5 km away and recognised the rigging of the boat tied up. She had been on the mooring for a couple of weeks. Her skipper had told me that despite keeping an eye out for shells, nothing had been coming up, but I thought to drop by the wharf and say hi, nevertheless.

He must have felt bad about his lack of shells as I have plied him with beer and chocolate year-round after all. So, he quickly went to his boat's side and started scraping around hopefully in the small gap in the weight that sits on the bottom of the sea when trawling. These weights are not designed to collect anything, but they have a small crevice where the wood and metal meet.

By the time I shifted to his side of the boat, the skipper had a screwdriver out scraping some dubious, smelly material onto the side. There were two *Austofusus glans* (Röding, 1798), a grey blob, some bits of rusty metal and gritty sand. After explaining how common the *Austofusus* were and throwing them over the side, I picked up the grey blob and turned it over. That's when I saw the aperture: salmon pink and broadly orate. The word Trophon immediately entered my mind. I remarked "this could be something very special" and put it in the only thing available - my handbag.

All through filling the fuel, driving home and doing evening chores I thought about that shell in my bag. I wanted to pull it out and check again but I refrained until I could clean the grey sponge off it and really get a good look. Between *New Zealand Seashells* (Raven and Bracegirdle 2020: 40) and *New Zealand Mollusca* (Powell, 1979: 173) and Kerry Walton it was confirmed to indeed be the rare Muricid *Emozamia licina* (Hedley & Petterd, 1906).

It just goes to show that finding rare shells has a lot to do with luck and the willingness to give fishermen lots of beer and chocolate.

CLAIRE ELLIOT



Tonna dolium

(Linnaeus, 1758)

In the previous issue of *Cookia*, Vol. 32, November 2020, there was an article entitled 'Bay of Plenty wash-up'. This related to an event during October of that year where many *Tonna* specimens appeared on Bay of Plenty beaches. As you would expect there were other locations throughout the bay that were not reported on.

One of those was the stretch of coast from Papamoa Beach East reaching as far as the Kaituna River mouth. A local, who is keen on fishing from the beach, uses a beach buggy (as many do) to travel this remote area. During August and September 2020, he collected dozens of *Tonna tankervillii* (Hanley, 1860) filling half a dozen banana boxes.

I have been able to add a number of these specimens into my collection, including a gem from among them, a *Tonna dolium* (Linnaeus, 1758) measuring 103 mm.



This species was not mentioned in the 2020 article, and is a true rarity for a beach wash-up, particularly as far south as the Bay of Plenty. It is a reminder to pay attention to the patterns on these shells, noting the random patterning on *T. tankervillii* compared to the more regular pattern of spots on *T. dolium*.

SELWYN BRACEGIRDLE



Nassarius spiratus

(A. Adams, 1852)

Live specimen feeding in a tank.
Collected in the Tutukaka area,
October 2020.

JAVIER COUPER

Finding fossils at home

Acquiring a second home in Pohara near Takaka unexpectedly resulted in finding fossils in my garden. They are limestone, between 25 and 30 millions years old.

Similar fossils can be seen in rocks on Pohara beach, where huge boulders from Tarakohe Quarry have been put on the beach to stop erosion.

HEATHER SMITH



From dark comes the light - shell collecting underground

by Andrew Spurgeon

Recently I had the opportunity to do some more unusual shell collecting. Not beachcombing or intertidal fossicking which most of us are used to. Not even scrambling around in the bush for land snails.

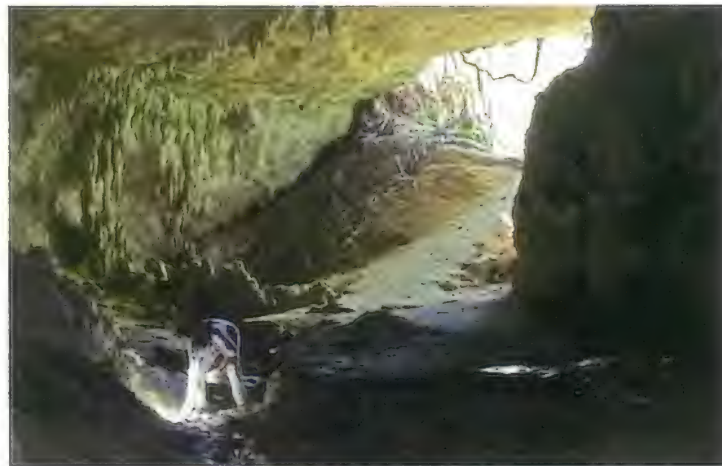
I had my first introduction to cave collecting.

Ballroom Cave, in the Aorere Valley, Golden Bay, Tasman, involves about an hour's uphill walk into bush. Once reaching the cave, a gentle but slightly muddy descent finds one in a large open cavern with a shallow stream trickling through. A good torch is a necessity.

Collecting involves randomly scooping up teaspoons of fine gravel and mud from the stream and hoping that there is something hidden amongst the grains. It is virtually impossible to see the tiny shells in the cave, and sorting must be done in better light, under magnification, later.

The normal procedure is to slowly dry out the sample of mud, use a coffee sieve to save anything over 1 mm and meticulously sort through it with a magnifier, picking out anything that looks like a snail. I left my container for a couple of days before getting

around to this, so was quite surprised when taking off the lid to see small trails meandering through the still wet mud. I was able to pick about a dozen live snails out of the material, transferring them into 98% ethanol for Museum of New Zealand Te Papa Tongarewa.



For the next week, I observed the snails quite actively ploughing through the fine silty mud on the surface, and then occasionally burrowing below it.

Opacuincola josefstrausi Haase, 2008 was the most common and

largest of the tateids I collected. Others included *Opacuincola johannstrausi* Haase, 2008 and one resembling *Catapyrgus spelaeus* Climo, 1974, although this identification awaits confirmation. The land snail *Zelandiscus elevatus* (Climo, 1978) was found in considerable numbers, dead in the stream

sediments. Ballroom Cave (sometimes referred to as Aorere Cave) is the type and only known locality for *Z. elevatus*. Additionally, other minute land snails that had somehow found their way into the cave system, await identification.

Many thanks to Pete and Dee Cresswell for the introduction to cave snailing, and to Pete for help with this article.

Top: Entrance to Ballroom Cave

Centre: Specimens on the cave floor

Bottom:

Opacuincola josefstrausi Haase, 2008

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Habitat & range extension for *Meridiopyrgus pupiformis* Haase, 2008

by Pete Cresswell

Meridiopyrgus pupiformis Haase, 2008 was, up till now, known by four specimens, the habitat being a small stream with the locality which Haase described as “East of Invercargill, small stream on sharp bend in road short distance after entering bush (south-west end of Catlins), Southland, South Island. 46°33.0'S; 169°09.0'E WFP, 12.19890.”

These coordinates were plotted and found misleading: being west of Waikawa Valley Road, in an untracked area of bush – a considerable distance from what may be regarded by the description as a target area. Searches by me this year and Kathy Carson in February 2020, failed to find the described locality. The type locality may now be almost impossible to pinpoint.

Four specimens are known: the holotype and one paratype in the



Meridiopyrgus pupiformis Haase, 2008

Photo: Andrew Spurgeon

Museum of New Zealand Te Papa Tongarewa (Te Papa) and two paratypes in the Australian Museum, Sydney.

On 25 May 2021, Dee and I collected a small series of tateids from moss at the base of McLean Falls, on the Tautuku River, Catlins, Otago. Using NZ Topo map WSG84 (DM), the coordinates for these falls

are 46° 34.17'S; 169° 21.19'E.

By any reckoning this locality is a significant distance from any interpretation of the described type locality or the coordinates given.

The snails here conform well with *M. pupiformis* and their identity has subsequently been confirmed by Dr Bruce Marshall, Consultant Malacologist, Te Papa.

I am grateful to Dr Bruce Marshall, Consultant Malacologist, Museum of New Zealand Te Papa Tongarewa, for the species identification and to Andrew Spurgeon for photographing the illustrated specimen.

Reference:

HAASE, M. 2008. The radiation of hydrobiid gastropods in New Zealand: a revision including the description of new species based on morphological and mtDNA sequence information. *Systematics and Biodiversity* 6(1):99-159

Editor's pick

Bev Elliott spotted these limpets tucked in their snug little home, and imagined them saying “It’s a tough life here at Waipapa. We got uplifted six metres in the earthquake, and now there is covid and we’re having a problem with social distancing.”



Cissy Bay trip

by Pat Lakeman, Eric Scott & Kathy Carson

In February 2021, an assortment of shell collectors from all over New Zealand travelled to Cissy Bay, Pelorus Sound for a few days of dredging and collecting. The trip had been organised by Kerry Walton – who in the end could not participate! We were hosted and led – very generously and capably – by Kevin Mead, whose home in Nelson was the gathering point for most of the group. Participants were Kevin, Kevin and Judy Burch, Kathy and Les Carson, Pete and Dee Cresswell, Pat Lakeman, Alicia McLean, Jason Plaisted, Eric Scott, Andrew Spurgeon, and Mike and Sue Young.

The Thursday of our travel from Nelson to Cissy Bay was wet and dismal, but the weather brightened up and after arriving we were able to walk out to Kettle Point and back. Our finds included live, though small, specimens of *Barnea similis* (Gray, 1835), *Pholadidea suteri* Lamy, 1926 and *Haliotis virginea virginea* Gmelin, 1791, live and good-sized *Barbatia novaezealandiae* (E.A. Smith, 1915) and *Limaria orientalis* (A. Adams & Reeve, 1850) and large live *Cardita distorta* Reeve, 1843. This was a very pleasant start to our stay, wading in calm conditions and lifting rocks in shallow water that often glittered with small but very colourful shells of *Gari stangeri* (Gray, 1843) and the occasional up-turned *H. virginea virginea*.

That evening we enjoyed burgers for dinner and we all stayed at Kevin's lodge except Jason, who was in a separate house nearby, where he would be joined by Pete

and Dee, and Mike and Sue, who arrived the following day.

On the Friday morning there were two dredging trips in Kevin's boat – Kathy and Eric and Alicia joined Kevin for the first shorter trip with just one tow; Kevin Burch (KB), Les and Andrew went on the second trip, which completed four tows. Much shell washing and sorting began back at base after the first trip; there was not so much to do from the second trip because the team had done a lot on board. After Pete and Dee arrived we all drove to French Pass for a spot of low tide collecting; then Mike and Sue joined us in the evening for another yummy meal, and about half the crew retired to the separate – and fairly sumptuous! – bar (a feature of the lodge, the Mako Snooker Hall) to play pool and darts.

Mike and Sue had brought their boat

with them so on Saturday morning both boats were launched. Mike took KB, Kathy and Pete with him while Kevin was accompanied by Judy, Pat and Jason. The first tows were made at Ketu Bay, then we moved to the northern end of Maude Island. Salmon and mussel farms were nearby and we saw seals and a rather too large great white shark amongst them. That afternoon most of the group went collecting at Te Towaka. Much shell washing was also done from the dredged material brought back by both boats.

Sunday saw three more tows undertaken and then the epic task of sharing out the dredged shells.

It's easy to underestimate the effort and time that it takes to deal with dredged material: washing it, sorting it and carefully keeping the treasure separated by its locality data. On this

trip there were about 10 tows in total, so it was a real task. Nearly everyone helped, and luckily we had plenty of water (supplied from a spring) with which to do the cleaning. Then the shells were laid out on benches so everyone could have a good look, and each took their turn at selecting their choices in the order determined by drawing numbers from a hat.

There was still time to include a coastal walk on Sunday, but on Monday our stay was over. We all headed back to Nelson and, directly or indirectly from there, our various homes from Kaitaia to Bluff.

I felt so lucky to be back to Cissy Bay again. I had made more than one visit there in the past, and I



Some of the results of the dredging, laid out for sharing



Clockwise from top left:
Cissy Bay; a crew aboard Mike's boat; a bigger crew awaiting the shell share-out (from left: Kevin M, Alicia, Judy, Pete, Kevin B, Eric, Kathy, Les & Pat; missing are Andrew, Dee, Jason, Mike and Sue); our main accommodation (Kevin's lodge); Kevin at the helm; the track to Kettle Point; lifting the dredge on Kevin's boat.





remembered in particular a very enjoyable trip with Kevin, Graham, and Kris and Roger Woods in 2011. At that time the dredgings, from similar locations, were considerably richer and better quality. For example, two bivalves that had been handsome and plentiful in 2011 - *Notocallista multistriata* (G. B. Sowerby II, 1851) and *Pratulum pulchellum* (Gray, 1843) were virtually absent from the finds on this trip. And on this trip, Kevin had adjured us strictly to look for and immediately throw back any live scallops that we saw – but sadly we saw very few. So Kevin and I commiserated unhappily about the deterioration - predominantly due to exploitation by commercial scallop fishing - and how little the seafloor had recovered in the years since that activity had ceased. In other respects though, this trip was terrific; splendid company, great teamwork and good calm weather contributed to a most enjoyable time.

And of course there were shells. For Kathy Carson, some of the best shells were the smallest: “This was Les’ and my first stay at Cissy Bay

and was a fantastic few days. Our accommodation was A1 (thanks Kevin) with everyone pitching in preparing culinary meals. Happy hour was equally as good, sharing our stories of the day. For me one of the highlights was getting out in a boat again. This is always exciting,

anticipating what may come up in the dredge. Back at base it was all hands on deck to sort the days finds. For me taking home some shell grit to sort was equally of interest with some great finds.”

One of the crew who had travelled farthest to get there, Eric Scott, found an upside even in his troubled trip home: “Cissy Bay was a first for me. I had never been out to the French Pass area before. However, I had done dredging before with KB & Kerry Walton. I most enjoyed the low tide fossicking and the dredging, and I rate the live *H. virginea virginea* as my best find. I think the best find overall was the live *Mysticoncha harrisonae* Powell, 1946 (even though it was badly damaged).

The road out was definitely an experience not to be missed, and the accommodation was excellent - having everyone more or less together was great. My roommate was also excellent - Andrew and



Top of page: D’Urville Island viewed from the road to French Pass.

Above: Shell sorting was a major occupation, first on the boats and then back on land. In the centre photo Alicia, Jason, Pat, Kathy & Eric take a turn washing & sorting. Recreation also featured: in the bottom photo Andrew (obscured), Alicia, Eric, Jason, Kevin M, Kevin B and Mike (partially obscured) enjoy the Mako Snooker Hall.

I probably talked every night until the wee small hours - it was just great. I enjoyed going out in the boat and Kevin was an awesome, knowledgeable person to have as a skipper. Though getting home was a disaster as my flights were cancelled due to a covid enforced lockdown, it did have a silver lining in that I was able to go fossicking for fossils and had reasonably successful finds."

The *M. harrisonae* specimen was

preserved in alcohol and sent to Kerry Walton who confirmed that it "was, sadly, completely crushed when I came to examine it and cannot be retrieved in any sensible form. I estimate it would have been just shy of 10 mm in length, which would be subadult, not juvenile."

Despite my dismay that the dredged material was not as rich as it had been in previous years, there were some excellent dredged examples of *Amalda mucronata* (G. B. Sowerby I, 1830), *Alcithoe fusus* (Quoy &

Gaimard, 1833), *Austrofuscus glans* (Röding, 1798), *Buccinulum* sp., *Limaria orientalis* (A. Adams & Reeve, 1850), *Maurea* sp., *Pellicaria vermis* (Martyn, 1784), *Poirieria zelandica* (Quoy & Gaimard, 1833), *Struthiolaria papulosa* (Martyn, 1784), *Talochlamys zelandiae* (Gray, 1843) and *Zeacolpus vittatus* (F.W. Hutton, 1873). A fine *Rhinoclama trailli* (F.W. Hutton, 1873) was also in the mix – awarded unanimously to Kevin Mead for being such a splendid host to us all.



From left: *Haliotis virginea virginea* Gmelin, 1791, dorsal and ventral views, found under low tide rocks at Kettle Point in Cissy Bay; and two rarer items from the dredging - the yellow blob that turned out to be a badly damaged *Mysticoncha harrisonae* Powell, 1946, and *Rhinoclama trailli* (F.W. Hutton, 1873).

Photos by Jason Plaisted, Judy Burch and Pat Lakeman.

Editor's pick



Possibly Pat's favourite shell pic ever. This fabulous photograph of a small *Cypraea* sp. was taken by Giuseppe Piccioli Resta, a teacher of Geography at the University of Salento in Italy. He is also a keen underwater photographer and has won some of the most important international competitions in underwater photography with his extraordinary images.

Source: https://www.bridgepugliausa.it/articolo.asp?_sez=1&id_cat=48&id_art=3770&lingua=en

Some uncommon shells from Pelorus Sound, Marlborough

by Bert van Tiggele

After a dredging weekend in the Marlborough Sounds, in February 2021, Pete Cresswell gave me about 300 grams of sandy grit material, from 40 metres deep off Maud Island in Pelorus Sound.

The Marlborough Sounds, at the top of New Zealand's South Island, comprise four distinctly different sounds: Queen Charlotte, Kenepuru, Pelorus and Mahau. Many of the waterways in this area are broad such as in the Tawhitinui Reach (approximately 3 km wide) and in places are 60 m deep. The deeper bottom is largely silty mud with broken shell; in shallow sheltered

bays the bottom is mostly soft mud.

The shells I found in the grit were mostly juvenile or sub-adult, about two-thirds being bivalves (50 species) and one-third gastropods (30 species). Also found were some as yet unidentified separate chiton valves and a solitary coral, *Monomyces rubrum* (Quoy & Gaimard, 1833).

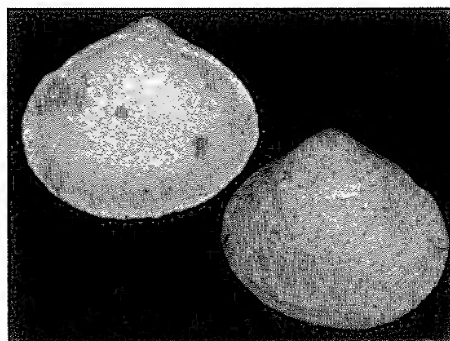
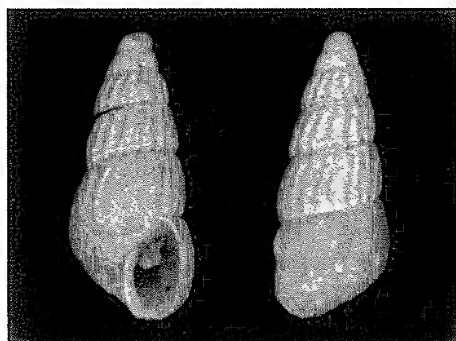
Some of the shells in this material were exceedingly small, are uncommon and may not have previously been recorded from this area. They included a small *Tellimya* sp., 3 mm, similar to the one found by Kathy Carson in similar dredged

material from Pelorus Sound. Kathy sent her shell to Dr Bruce Marshall at Museum of New Zealand Te Papa Tongarewa in Wellington, who confirmed it as an undescribed species. Hopefully, in time, we will hear more about this bivalve.

The Marlborough Sounds are clearly an excellent area for uncommon species. Some of the species I found in my sample are listed below.

Acknowledgements:

I thank Andrew Spurgeon for taking the photographs and Pete Cresswell for stimulating me to check his unsorted material.



From left: *Besla vaga* Laws, 1941 (Family: Pyramidellidae), height: 1.9 mm; *Neolepton triangulare* (Dell, 1956) (Family: Neoleptonidae), height: 2 mm; *Nucinella maoriana* (Hedley, 1904) (Family: Nucinellidae), height: 2 mm.

Photos: Andrew Spurgeon

Bivalvia

Anisodonta alata (Powell, 1952)
Anomia trigonopsis F.W. Hutton, 1877
Arthritica bifurca (Webster, 1908)
Arthritica crassiformis Powell, 1933
Bartschicoma edgari (Iredale, 1915)
Bassina yatei (Gray, 1835)
Borniola reniformis (Suter, 1908)
Cardita distorta Reeve, 1843
Corbula zelandica Quoy & Gaimard, 1835

Cyclochlamys sp.
Dosina mactracea (Broderip, 1835)
Dosinia greyi Zittel, 1865
Dosinia lambata (Gould, 1850)
Ennucula strangeiformis (Dell, 1956)
Erycina parva Deshayes, 1856
Gregariella barbata (Reeve, 1858)
Hiatella sp. aff *arctica* (Linnaeus, 1767)
Hiatula siliquens (Willan, 1993)
Irus reflexus (Gray, 1843)
Kellia cycladiformis (Deshayes,

1839)
Leptomya retiararia (F.W. Hutton, 1885)
Linucula sp.
Linucula hartvigiana (Dohrn, 1864)
Limatula maoria Finlay, 1926
Musculus impactus (Hermann, 1782)
Myadora novaezelandiae E.A. Smith, 1881
Mysella hounsellii (Powell, 1931)
Neilo australis (Quoy & Gaimard, 1835)

<i>Neoguraleus murchisoni</i> (Finlay, 1924)	<i>Zenatia acinaces</i> (Quoy & Gaimard, 1835)	<i>Notoacmea</i> sp.
<i>Neolepton triangulare</i> (Dell, 1956)	<i>Tellimya</i> sp.	<i>Nozeba emarginata</i> (F.W. Hutton, 1885)
<i>Notocallista multistriata</i> (G.B. Sowerby II, 1851)	Gastropoda:	<i>Philine auriformis</i> Suter, 1909
<i>Nucinella maoriana</i> (Hedley, 1904)	<i>Aclis pseudopareora</i> Powell, 1940	<i>Poirieria zelandica</i> (Quoy & Gaimard, 1833)
<i>Nucula nitidula</i> A. Adams, 1856	<i>Agatha georgiana</i> (F.W. Hutton, 1885)	<i>Retusa oruaensis</i> (Webster, 1908)
<i>Pleuromeris zelandica</i> (Deshayes, 1854)	<i>Alcithoe fusus</i> (Quoy & Gaimard, 1833)	<i>Scissurella prendrevillei</i> Powell, 1933
<i>Purpurocardia purpurata</i> (Deshayes, 1854)	<i>Amalda novaezelandiae</i> (G.B. Sowerby II, 1859)	<i>Seila terebelloides</i> (F.W. Hutton, 1873)
<i>Pratulum pulchellum</i> (Gray, 1843)	<i>Besla vaga</i> Laws, 1941	<i>Stiracolpus</i> sp.
<i>Prothyasira peregrina</i> Iredale, 1930	<i>Cirsotrema zelebori</i> (Dunker, 1866)	<i>Taranis nexilis bicarinata</i> (Suter, 1915)
<i>Saccula maxwelli</i> Beu, 2006	<i>Coelotrochus tiaratus</i> (Quoy & Gaimard, 1834)	<i>Turbonilla zelandica</i> (F.W. Hutton, 1873)
<i>Serratina charlottae</i> (E. A. Smith, 1885)	<i>Cominella</i> sp.	<i>Zeacolpus vittatus</i> (F.W. Hutton, 1873)
<i>Talochlamys gemmulata</i> (Reeve, 1853)	<i>Emarginula striatula</i> Quoy & Gaimard, 1834	<i>Zemitrella</i> sp.
<i>Talochlamys zelandiae</i> (Gray, 1843)	<i>Incisura lytteltonensis</i> (E.A. Smith, 1894)	Scaphopoda
<i>Theora lubrica</i> Gould, 1861	<i>Linopyrga rugata</i> (F.W. Hutton, 1886)	<i>Antalis nana</i> (F.W. Hutton, 1873)
<i>Thracia vegrans</i> P. Marshall & Murdoch, 1919	<i>Maoricolpus roseus</i> (Quoy & Gaimard, 1834)	<i>Cadulus teliger</i> Finlay, 1926
<i>Zemysia zelandica</i> (Gray, 1835)		<i>Siphonodentalium delicatulum</i> (Suter, 1913)
<i>Zemysina striatula</i> (Finlay, 1926)		



From left: *Taranis nexilis bicarinata* (Suter, 1915) (Family: Raphitomidae), height: 3 mm; *Prothyasira peregrina* Iredale, 1930 (Family: Thyasiridae), height: 9 mm; *Aclis pseudopareora* Powell, 1940 (Family: Eulimidae), height: 3.15 mm.

Photos: Andrew Spurgeon

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Around the world in 80 – or 1280 – days

The story of one of the greatest research cruises of the past

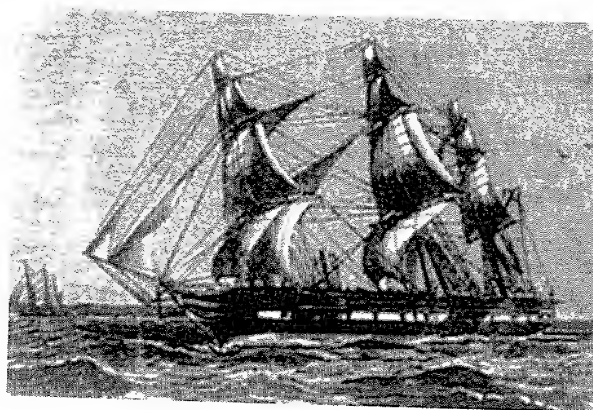
by Jill Burnet

If you were planning a trip around the world, would you choose a quick one of 80 days, or a cruise 1200 days longer? Nowadays a trip of 80 days wouldn't be considered quick, but when Jules Verne wrote "Around the World in Eighty Days", it had only just become possible with new steamer and rail links. In the London of 1872, Jules Verne's hero, Mr Phileas Fogg, discusses with a group of friends how the world has shrunk with the development of transport, and Mr Fogg takes on a wager that he can make a tour of the world in eighty days. He started his journey that evening and was due back at his club in London on Saturday 21 December.

By some strange chance, in real life, on that very day a ship left English waters from Portsmouth on a trip around the world that would last a lot longer than eighty days. The story of her voyage was written by one of her naval officers, W.J.J. Spry, in "The Cruise of Her Majesty's Ship *Challenger*". This does not contain the scientific results of the expedition which are published in a series of imposing volumes, but is a book put together from Mr Spry's daily journals intended for the popular market. And it was popular, perhaps as popular as Jules Verne's story. In

less than 12 months it went through six English editions and was translated into several continental languages. You can still come across second-hand copies, and this account of the *Challenger*'s voyage is taken from that book, using Spry's language and place names as far as possible.

In his introduction, Mr Spry describes previous research cruises undertaken by the Royal



HMS *Challenger* under sail 1874

Photo: https://en.wikipedia.org/wiki/Challenger_expedition

Society. These "short and imperfect inquiries" were so successful and yielded such important results that the council of the Royal Society put before the government a project for an extended investigation – a cruise of three or four years with sounding, dredging, thermometric observation and chemical examination of sea water to obtain more knowledge of the physical and biological conditions of the great ocean basins. The government

eventually approved this, and a corvette, HMS *Challenger*, was selected and fitted out at Sheerness. As well as sail, she had a 4,000-horsepower engine that was mainly used for maneuvering into ports and harbours and holding the ship steady for soundings. There was also an 18-horsepower engine on deck for heaving in dredges and sounding lines. All except two of the guns were removed to make

space for a chemist's laboratory, workroom for the naturalists, a dark room and studio for the photographer, an aquarium, sounding machines, a large chartroom for laying down surveys and constructing profiles of the seabed. The Admiralty selected naval officers with special skills suited to carrying out the work required by the Hydrographic Department,

and the civilian naturalists and physicists were nominated by a committee of the Royal Society.

The ship left "the wretched seaport" of Sheerness amidst rain and heavy gales, rolling and pitching to a fearful extent. They put in at Deal, where most of the scientific staff landed, preferring to journey overland to Portsmouth. Here the *Challenger* took on supplies, "box after box being daily brought on board taxing the ingenuity of those whose duty it was to stow them

away safely”.

On 21 December 1872 all was pronounced ready, and the *Challenger* set out from England on her important voyage, again in miserable stormy weather, which continued as she crossed the Bay of Biscay. It was nine days before scientific work could commence off Vigo Bay, with the first sounding and dredging. On 3 January they headed to land, steamed up the Tagus and moored off Lisbon where those who wished could go ashore. Mr Spry considered the city well worth visiting, and before they left, King Luiz I, who was fond of natural history came aboard and remained for some considerable time. He was given luncheon, and a group photograph was taken of His Majesty and the officers of the expedition. After waiting out a gale, they headed south, and decided to try the common trawl off Cape St Vincent. Among the treasures brought up was a Venus flower basket, alive. These beautiful objects, a type of deep-water sponge that resembles a cone of spun glass, were previously only known from the Philippines, so their find was an addition to the fauna of Europe. Their next port of call was Gibraltar, where the officers were made honorary members of the garrison library, a great facility that had all the newest books, newspapers and magazines from England in addition to its collection of

historical literature. They left Gibraltar on 26 January and headed westward to continue the line of soundings made off Lisbon. A week of dredging, trawling and sounding brought them to Madeira where they anchored in the Bay of Funchal to take on coal. Impressions of Funchal were delightful – luxuriant gardens with gorgeous flowers and mountainsides covered in beautiful plants. The next stop was Santa Cruz, Tenerife, where the scenery was wild and impressive. On the last evening there they were invited to a ball at the British Consulate, a capital affair with many



Route of the voyage
Photo: <http://office.webpole.hu>

Spanish beauties but it was a drawback being unable to converse fluently with their partners while dancing.

Challenger left Santa Cruz on 14 February, to cross the Atlantic via a line of stations about a hundred miles apart. A month later she reached the Virgin Islands. At Bermuda she joined other naval vessels in the naval dockyard and a fortnight was spent in scientific pursuits as well as refitting and supplying the ship. From there soundings

were of very great interest. The Stream was found to be about sixty miles wide and was easily detected by the 8° difference in temperature. Halifax is praised for its charming situation, safe harbour and splendid scenery. While the *Challenger* was there, members of the Halifax Institute of Natural Science were invited on board to see the many submarine wonders that had been collected. *Challenger* returned to Bermuda, and from there set sail for the Azores.

Fayal was sighted on 1 July. “A good deal of formality was observed by the health authorities, and eventually pratique was given, but the Portuguese while anxious as to our state of health, refrained from giving us any information as to the existence of an epidemic of smallpox on shore.”

They decided not to land and tried another of the islands instead. This they enjoyed and Mr Spry comments that the Azores needs only to be more well known to make it a famous summer holiday place. They headed for Madeira but again found smallpox, so proceeded towards the west coast of Africa. The equator was crossed, without the usual crossing the line customs being permitted. The naturalists had hoped to collect some specimens on the island of Fernando Naronha. The commandant originally granted

permission for this, but the next day withdrew it stating that he could not, without the sanction of his government, take upon himself the responsibility of allowing any investigation or of collecting a single insect or plant. Nothing further could be done, so they continued with frequent soundings and dredgings although the weather was unsettled and squally. On 14 September they reached Bahia (Salvador). During their stay little of scientific interest was done although a great deal of amusement and relaxation was had.

They raced on under sail to cooler latitudes, with half a dozen dredging and sounding stations planned. Unfortunately, the very best haul got away. They were trawling at a depth of 2,300 fathoms, but the contents of the trawl were so weighty that the strain carried away an iron swivel at the tantalizing moment. Mr Spry remarks that “the anticipated contents of that trawl would require an abler pen than mine to describe”. They anchored off Tristan D’Acunha, which at the time of their visit had a population of some 20 families. Some time was spent surveying Nightingale Island which was imperfectly shown on existing charts, fresh provisions were purchased, trawling done between the islands, but the weather deteriorated and they left in haste.

The famous Table Mountain of the Cape became visible on 28 October and that afternoon they anchored in Simon’s Bay. Because of the yellow fever at Bahia, two days was imposed before they could go ashore. During their stay, they gave a ball, using as decorations sounding apparatus, trophies from dredging, and flags which together with flowers and evergreens gave a very pleasing effect. The following night the citizens of Cape Town gave a ball in return.

The weather was fine as they left the Cape, but the usual

firm soil. What a scene of wild desolation and solitude met their gaze. All around, nothing but huge blocks of rough and rugged rock rolled about by the breakers, slippery with half dry algae. While the naturalists were on shore, the vessel was engaged sounding, dredging and trawling, and some immense crabs were obtained from 300 fathoms. Weather prevented any landing on Prince Edward Island (sighted by Captain Cook in 1776) and the Crozet Islands. However, all the islands were seen and their correct positions ascertained.

The strong northwesterly wind helped them proceed rapidly under sail to Kerguelen Island where they anchored in Christmas Harbour. A visit ashore was highly satisfactory – the photographer had a dozen negatives, the artist had drawn several sketches, the botanist, naturalist and geologist all had specimens and the surveyors had obtained observations.

Heard Island gave them their first sight of Antarctic scenery – snow and ice descending to the sea on all sides. They found a group of sealers living on the island in dirty huts sunk into the ground for warmth and protection from the frequent gales. The sealers had no boat and were entirely dependent on the return of the sealing schooners the following October for supplies or relief.

The evening of 7 February found the *Challenger* fairly started on



HMS Challenger personnel in 1874

Photo: <http://www.zamboanga.com/history/histor8.jpg>

boisterous winds of the roaring forties were experienced as the ship ran quickly on for Prince Edward and Marion Islands. On the 25th (Christmas Day) a landing was effected on Marion Island. One of the cutters, after a long pull through extensive fields of kelp, reached the shore. A regular landing place was not to be expected; however, by dint of jumping from rock to rock, a method far more agreeable and better suited to penguins, a footing was accomplished on the

her cruise towards the South Pole, and a few days later the first iceberg was reported. From this time icebergs became very numerous, some of them of magnificent dimensions and arousing great excitement on board. At daylight on 14 February a beautiful sight was revealed; they were close to the edge of the pack ice which from the masthead appeared as one solid mass without an opening in any direction. The novelty of being surrounded by icebergs and having on one side a boundless field of ice gave them intense delight. The colour of the icebergs varied from deepest blue, through green to dark grey, some with numerous caverns and arches. After days of fine weather, the wind rose and the ship tried to shelter in the lee of a large iceberg. However a collision carried away the jib-boom and head-gear. The damage was cleared and steam raised. The weather worsened and thick snow limited visibility to 100 yards. Spray on the deck turned to ice making it most difficult to work the ship. All hands were called when the ship was within 200 yards of a great iceberg. The crew worked well and danger was avoided. Eventually they found a clear passage between two icebergs and the night was spent drifting backwards and forwards from one to the other.

All felt glad when daylight arrived and they were able to shape a course under sail. Having now proceeded as far south as practicable in an undefended ship, course was altered to northeast. On reaching clear water, studding sails were set and they were off for Australia 2,278 miles distant.

“March 16 – land in sight! The first for forty days. Cape Otway, Australia’s southwestern point was ahead, and the bright light glimmering in the darkness of the night.” Early the next morning they entered Port Phillip harbour and anchored in Hobson’s Bay. Near them were a large number of vessels at anchor, and several of the most magnificent clipper ships in the world lay alongside Sandridge Pier, where there were warehouses, factories and docks. They were given free passes for the train to Melbourne, three miles off. They found that the public buildings were fine and in good taste, the Botanic Gardens well stocked with beautiful flowers, plants, ferns and trees. A trip to Ballarat was organized and opportunities to visit some of

the famous gold mines. From Melbourne they sailed to Sydney, and were impressed with the beauty of Sydney Harbour, and its facilities for yachting, boating and fishing. A few days after their arrival, a special train was arranged for an excursion to the Blue Mountains in company with several officers from a German frigate, *Arcona*. Lunch was provided and they returned to Sydney late in the evening. Mr Spry spent many pleasant hours in the Public Gardens; he was a guest at balls, dances and picnics, and attended a scientific conversazione of the Royal Society. The *Challenger* gave a ball in the Masonic Hall which was a thorough success. “Before, however, leaving Sydney, it was decided to give a dredging picnic. A large party, chiefly consisting of gentlemen more or less interested in scientific pursuits and maritime affairs, availed themselves of the opportunity of having a cruise.” On each occasion as the trawl appeared above the surface of the water the interest was very great – the silent eagerness of the experienced naturalist and the feverish exultation of the

amateur conchologist as they pounced upon the newly discovered specimens formed a lively scene. A farewell party was afterwards given to include the ladies.



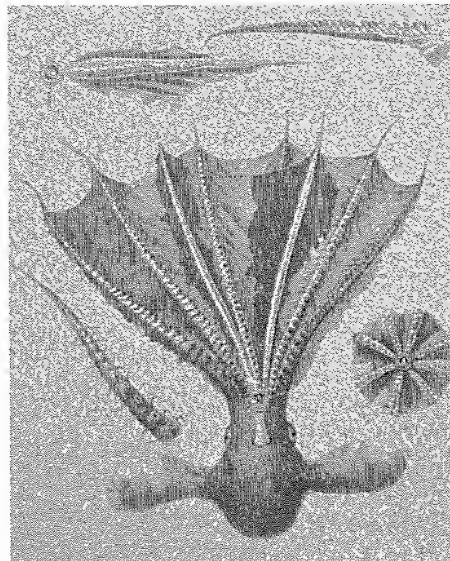
HMS Challenger in the Southern Ocean, drawn by crewman Sub-lieutenant Herbert Swire .

Photo: https://en.wikipedia.org/wiki/Challenger_expedition

“A continuance of rain and high southerly winds kept the *Challenger* at anchor until the 12th [June] when a second attempt was made to run a line of soundings to New Zealand, a distance of about 1100 miles.” Placed in the very track of storms, exposed to waves that run from Pole to Pole, the shores of New Zealand are famed for surf and swell, and so they found them, up to the time that Cape Farewell was sighted, when the wind increased in force blowing violently, with a very heavy sea. They sheltered in an inlet on D’Urville Island only just in time to escape the fury of the gale which lasted all the next day. Eventually they made a successful run across Cook’s Straits, the ship pitching, straining and shaking in a most unusual manner. Just before sunset the entrance to Wellington was made out. “A rough reef of black rocks, awash with the ribs and timbers of a recent wreck showed the inhospitable nature of the shore, if indeed such an addition was necessary to establish the dangerous proximity to a rocky coast with a rolling, roaring surf. This was an introduction to the wild and grand scenery of New Zealand.” They remained at Wellington for ten days. When they left on 6 July, they only got as far as Worser Bay when the weather became so thick that the marks to clear the reefs could not be distinguished. At daylight next morning the weather had moderated sufficiently to make another attempt. After clearing Cook’s Straits, sail was made

and some dredging and trawling done as they coasted along about ten miles distant from the shore. A few days out from Wellington a gale drove them fast to the northward and prevented them from visiting Auckland. On 14 July, Raoul Island, one of the Kermadec Group, was in sight. “They consist of a cluster of dangerous rocky islets which are rather to be avoided than approached owing to their hidden reefs.”

After a short stay at Nukulofa, they proceeded to the islands of the Fiji group, and then to New



***Grimpoteuthis meangensis* (Hoyle, 1885)** found en route from New Zealand to Indonesia (stations 171 and 214). Known from very few specimens, it is “data deficient” on the IUCN red list.

Photo: <https://rammhmschallenger.wordpress.com/2015/03/19/marchs-molluscs/>

Hebrides (Vanuatu). On 1 September they arrived at Cape York, the northeast point of Australia. Mr Spry states that the Colonial Government has for some time past been endeavouring to establish a settlement here, but the soil is

very poor and the climate anything but healthy. A week later the *Challenger* headed down Torres Strait.

The next long stay was Hong Kong. The harbour was crowded with men-of-war and trading vessels of many nationalities, while hundreds of junks, sampans and fishing boats, full of life and movement, contributed to make the scene one of great attraction. After some weeks here the mail steamer from England arrived, a few days late which caused some grumbling. A century ago the mail took 40 weeks, but now, says Mr Spry, if the signal gun does not announce its arrival within 42 days, everyone begins murmuring and complaining. They were into another new year when the *Challenger* left Hong Kong for Manilla, New Guinea and on to Japan. As they approached the Caroline Islands, they recorded a depth of 4,475 fathoms, and claimed this as the deepest authentic sounding on record. They spent several weeks in Japan, enjoying sightseeing trips, while *Challenger* had repairs done at the excellent government docks. Before they left Japan, they invited members of the Japanese government, the British Minister, Japanese, American and French naval officers and European residents on board to watch sounding, dredging and trawling in the Bay of Yedo.

From Japan, they headed eastward across the Pacific Ocean. “The principal occurrence of the voyage that

made an impression was the passage of the meridian of 180°, which took place at noon on 3 July. Accordingly, ... Sunday 4 July was continued for two days so as to prevent returning to England with log and journal one day ahead of the calendar.” Jules Verne’s hero, Mr Fogg also travelled east across the Pacific from Yokohama, but he was not so well informed as Mr Spry and crossed longitude 180° without realizing its significance or adjusting his calendar. After many more adventures he reached England thinking it was a day later than it was. Of course it all comes right in the end, the mistake is discovered, Mr Fogg wins his wager, and Jules Verne explains to his readers how his hero gained a day. It’s no news to us, situated so close to the International Date Line and well aware that those unfortunate people on the other side of it are living in yesterday.

Honolulu was *Challenger*’s first stop after the long Pacific crossing, and nothing could exceed the generous hospitality proffered to all in the ship during their stay. A few days were spent in Hilo before setting out on the run of 2,400 miles to Tahiti. “Alas, when a few short days of pleasure were passed, the hour arrived for our sailing and on Sunday October 3rd the ship

steamed away from Papeite.” On November 13 land was reported – the solitary island of San Fernandez “It was on this island that Alexander Selkirk was landed in 1704, from a ship he was serving in at the time as master; and here he remained in solitude for more than four years.” This was the inspiration for Daniel Defoe’s book, *Robinson Crusoe*, and most copies of that book have some account of Alexander Selkirk. The *Challenger* spent a couple of days at anchor here, and all the places near at hand immortalized by Selkirk were visited. They left on 15 November, and on the 19th sighted the Andes and put in to Valparaiso. While there, one of the naturalists visited Uspallata Pass and brought back a large collection of plants for the Botanical Gardens at Kew.

Fine weather favoured their departure from Valparaiso on 11 December, they dredged and sounded frequently, and spent the last hours of 1875 at Port Otway in the Gulf of Penas, Chile. They all sat up late spending a jovial evening and rang the new year in on the ship’s bell. They proceeded through the Straits of Magellan to the Falkland Islands, where they imparted a little gaiety to the colonists with dances and dinner parties. However rain or

wind, or both combined, seemed to constitute the normal state of things in these bleak and desolate islands; all were glad when it was decided to proceed on their way north. They anchored off Montevideo where they found H.M gun vessels *Cracker* and *Ready*, and naval and merchant vessels of many different nations. They continued northward and on 13 March crossed the course which had been followed some two years and a half before in the passage from Bahia to the Cape of Good Hope. Thus the actual circumnavigation of the world had been successfully completed, and the information from the soundings and dredgings make this one of the most important voyages that has ever taken place.

On March 27 they reached Ascension Island and from there set a course for Cape de Verde Islands. A month later they left St Vincent under sail, homeward bound. They had to run into Vigo for a supply of coal – “just enough time was allowed for a scamper on shore, through the narrow, steep, winding streets of the town” and early next day they were again at sea. With a fair wind helping them across the Bay of Biscay, they saw the bright light of Cape Ushant on the evening of 23 May 1876, the

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next morning proceeding up the English Channel amidst a very maze of shipping. In a few days more they were back at Sheerness with all the bustle and excitement attendant on returning stores and paying off.

They brought back an abundance of material for the various departments of natural history, as well as all the hydrographic information. The molluscs from the expedition are lodged in the British Museum, and these

include some New Zealand species. A few examples are *Cyclopecten kermadecensis* (E. A. Smith, 1885) from the Kermadec Ridge, *Tritia ephamilla* (R.B. Watson, 1882) from off East Cape, *Xanthodaphne membranacea* (R.B. Watson, 1886) from off Cape Turnagain and *Spondylus ostreoides* E. A. Smith, 1885 from south of Raoul Island. The latter was the only known specimen at the time of Dijkstra

and Marshall's paper. A footnote on the last page of Spry's book mentions that The Geographical Congress in 1875 awarded a First Class medal to the members of the *Challenger* Expedition. It is almost 150 years since the *Challenger* sailed and so much has changed since then. Mr Spry's book gives a fascinating picture of one of the greatest research cruises of the past, and the world of the time.

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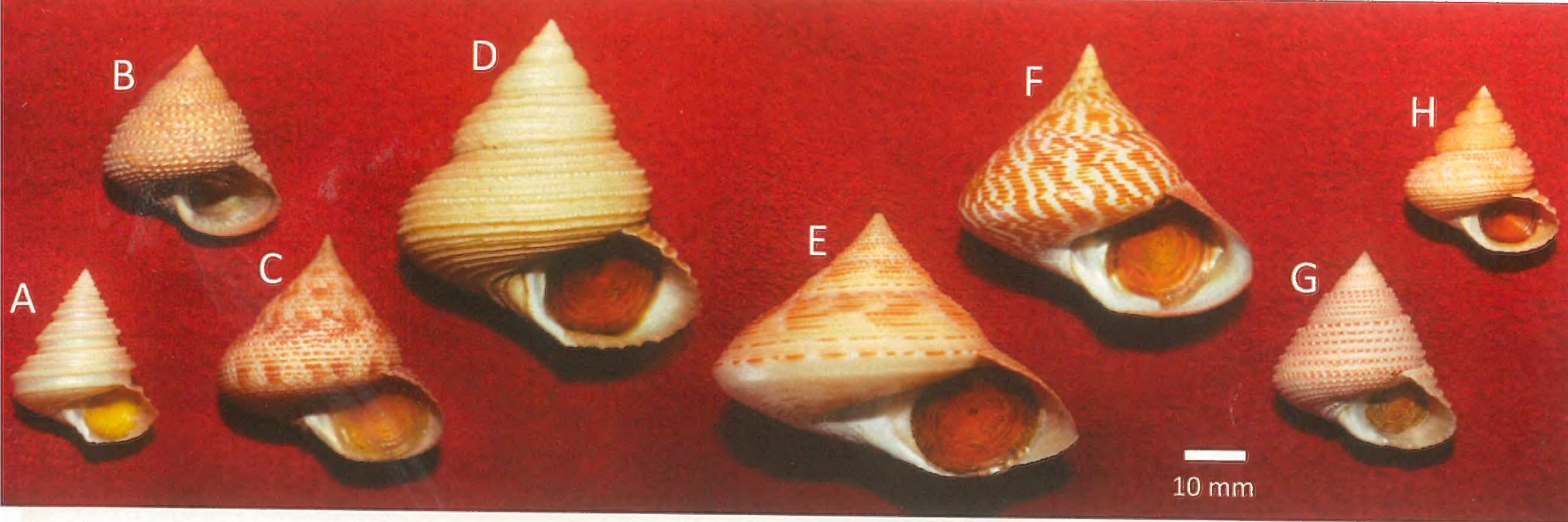
About *Cookia*

Cookia is the journal of the Wellington Shell Club and is published annually. *Cookia* was first published in 1976; prior to that date Wellington Shell Club published a Circular (1956-1965) and then a Bulletin (1967-1975) as well as occasional Study Notes on families of molluscs. For information on earlier publications see the Club's website: www.wellingtonshellclub.org.nz. To request back copies or copies of articles please contact Jill Burnett, 84 Brougham Street, Mt Victoria, Wellington 6011.

Your editors strive to attain a high quality of publication and careful fact-checking. The scope of articles is intended to reflect the differing specialties, levels of interest and experience within the Club: we hope all members will be able to contribute should they wish. We welcome both scientific and non-scientific articles, opinion pieces, photos, drawings and poems, and articles not directly related to shells or shell collecting so long as they have some relevance.

Your contributions are greatly appreciated - editorial policies and formatting suggestions for anyone considering submitting articles for future editions are available on the Club's website, or you are welcome to consult the editors. Photos or drawings provided should be of a high resolution, & supplied as individual files (i.e. not embedded into text). The editors may be able to arrange for imaging of specimens if required. Unless of an in situ individual, an assortment of specimens in one shot or an artful context, it is preferred that specimens are photographed at 90° to the height/length axis of the shell, with apertural views of gastropod species preferred. Multiple views, angles or images of the same specimen are appreciated.

Identification challenge solution:



- A) *Maurea alertae* B) *M. jamiesoni* C) *M. pellucida* D) *M. simulans*
E) *M. turnerorum* F) *M. tigris* G) *M. blacki* H) *M. antipodensis*

